

individuals having known identities, said spectral data having a plurality of measurement wavelengths, comprising the steps of:

obtaining target tissue spectral data from subepidermal tissue of said target individual by applying a plurality of optical wavelengths to the subepidermal tissue and measuring a plurality of wavelengths emanating from the tissue; and

positively verifying said target individual's purported identity by confirming consistency of a difference calculated between the target tissue spectral data and authorization tissue spectral data with a database having a plurality of intra-patient difference spectra for the target individual.

2. (Canceled).

3. (Amended) The method for verifying the purported identity of a target individual as recited in claim 1, further evaluating the difference calculated wherein said evaluation is done by a model that identifies between patients' differences.

4. (Amended) The method for verifying the purported identity of a target individual as recited in claim 1, wherein said differences are processed through a model to determine the significance of identified differences.

5. (Canceled).

6. (As Filed) The method for verifying the purported identity of a target individual as recited in claim 1, wherein said number of verified individuals is equal to one.

7. (As Filed) The method for verifying the purported identity of a target individual as recited in claim 1, wherein said number of verified individuals is greater than one.

14. (Amended) A method for verifying the purported identity of a target individual comprising the steps of:

obtaining a plurality of authorization tissue spectra from subepidermal tissue of each of a number of verified individuals by applying a plurality of optical wavelengths to the subepidermal tissue of the verified individuals and measuring a plurality of wavelengths emanating from the tissue, said verified individuals having identities;

determining intra-patient difference spectra determined from the plurality of authorization tissue spectra for each of the verified individuals;

obtaining a target tissue spectrum from subepidermal tissue of said target individual by applying the plurality of optical wavelengths to subepidermal tissue of the target individual;

performing discriminant analysis on said target tissue spectrum and said intra-patient difference spectra for said purported identity; and

positively verifying said target purported identity if, and only if, said discriminant analysis is satisfied.

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15. (Amended) A system for verifying the purported identity of a target individual comprising:

an authorized database including a plurality of intra-patient difference near-infrared tissue spectra for each of a plurality of authorized persons;

means for obtaining a near-infrared tissue spectrum and purported identity from said target individual by applying a plurality of optical wavelengths to subepidermal tissue of the target individual and measuring a plurality of wavelengths emanating from the tissue;

means for discriminating between said target individual near-infrared spectrum and said authorized persons near-infrared spectra by confirming consistency of a difference calculated between the target individual near-infrared spectrum and an

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authorization near-infrared tissue spectrum with the intra-patient difference near-infrared tissue spectra of the authorized database; and

means for indicating if said target individual purported identity is correct.

16. (As Filed) The system as recited in claim 15, wherein said discriminating means utilizes said target purported identity.

17. (Canceled).

18. (Amended) The system as recited in claim 15, wherein said means for discrimination includes means for selecting a plurality of said wavelengths, such that spectral differences between said spectra of said authorized persons is maximized.

19. (Amended) A system for verifying the purported identify of a target individual comprising:

a computer including an input device and an output device;

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a database including a plurality of intra-patient difference near-infrared tissue spectra for each of a plurality of authorized persons;

means for obtaining a near-infrared tissue spectrum from said target individual, including a near-infrared radiation source for projecting a plurality of near-infrared optical wavelengths subcutaneously and a near-infrared spectrometer for measuring subcutaneous near-infrared intensity over a plurality of wavelengths; and

a program running in said computer for discriminating between said target individual near-infrared spectrum and said authorized persons near-infrared spectra by confirming consistency of a difference calculated between the target individual near-infrared tissue spectrum and an authorization near-infrared tissue spectrum with the intra-patient difference near-infrared tissue spectra of the database.

20. (As Filed) The system of claim 19, wherein said means for obtaining a near-infrared tissue spectra includes an input element and an output element coupled to said tissue via an index-matching medium.

21. (As Filed) The system of claim 20, wherein said index-matching medium comprises a chlorofluorocarbon polymer.

22. (As Filed) The system of claim 21, wherein said polymer includes chlorotrifluoroethylene.

23. (Amended) The system of claim 20, wherein said index-matching medium has a refractive index between 1.30 and 1.45.

24. (New) The method recited in claim 1 wherein applying the plurality of optical wavelengths comprises applying a spectral band of the optical wavelengths.

25. (New) The method recited in claim 14 wherein applying the plurality of optical wavelengths comprises applying a spectral band of the optical wavelengths.

26. (New) A system for verifying the purported identity of a target individual comprising:

an authorized database including a plurality of intra-patient difference near-infrared tissue spectra for each of a plurality of authorized persons;

an optical source adapted to apply a plurality of optical wavelengths to subepidermal tissue of the target individual;

a spectrometer adapted to obtain a near-infrared tissue spectrum from the target individual by measuring a plurality of wavelengths emanating from the tissue;

a comparator adapted to discriminate between the target individual near-infrared spectrum and the authorized persons near-infrared spectra by confirming

consistency of a difference calculated between the target individual near-infrared spectrum and an authorization near-infrared tissue spectrum with the intra-patient difference near-infrared tissue spectra of the authorized database; and  
an indicator adapted to indicate if a purported identity of the target individual is correct.

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27. (New) The system of claim 26 wherein the optical source and spectrometer are coupled to the tissue via an index-matching medium.

28. (New) The system of claim 27, wherein the index matching medium comprises a chlorofluorocarbon polymer.

29. (New) The system of claim 28, wherein the polymer includes chlorotrifluoroethylene.

REMARKS

In the Office Action dated September 16, 2002 (paper no. 11), (1) an objection was raised to the Information Disclosure Statement ("IDS") filed January 14, 2000 as failing to comply with 37 C.F.R. §1.98(a)(2); (2) Claim 23 was rejected under the second paragraph of 35 U.S.C. §112; and (3) all of the claims were rejected under 35 U.S.C. §102 and/or §103 in view of certain references cited either alone or in combination. Applicants thank the Examiner for the courtesy of discussing the Office Action and the prior art as it pertains to the application in a telephone conducted on November 8, 2002. Claims 2, 5, and 17 have been canceled; amend Claims 1, 3, 4, 14, 15, 18, 19, and 23 have been amended; and Claims 24 – 29 have been added. Newly added claims 26 – 29 are apparatus claims that correspond to the previously pending apparatus claims, but written without the use of means-plus-function language. An